

What is claimed is:

1. A hydrogen supply system, comprising:
 - a hydrogen supply station; and
 - a mobile hydrogen production system;
- 5 wherein the hydrogen supply system supplies hydrogen produced by the mobile hydrogen production system to the hydrogen supply station.
2. The hydrogen supply system according to claim 1, wherein the hydrogen supply station is a hydrogen supply station for a fuel cell powered automobile.
- 10 3. The hydrogen supply system according to claim 1, wherein the hydrogen supply station is a hydrogen supply station for distributed fuel cell equipment.
4. The hydrogen supply system according to claim 1, wherein the mobile hydrogen production system is provided with a membrane reformer or a reformer including a reformer body and a hydrogen separation unit using a hydrogen separation membrane.
- 15 5. The hydrogen supply system according to claim 1, wherein the mobile hydrogen production system is provided with an evaporator.
- 20 6. The hydrogen supply system according to claim 1, wherein the mobile hydrogen production system is provided with a desulfurizer.
7. The hydrogen supply system according to claim 1, wherein the mobile hydrogen production system is provided with a

prereformer for decomposing higher hydrocarbon into lower hydrocarbon.

8. The hydrogen supply system according to claim 7, wherein the lower hydrocarbon is hydrocarbon with a low molecular weight 5 such as methane.

9. The hydrogen supply system according to claim 1, wherein the mobile hydrogen production system is provided with a compressor unit for compressing hydrogen.

10. The hydrogen supply system according to claim 1, wherein 10 the mobile hydrogen production system is configured so that it can produce hydrogen by being supplied with two or more kinds of material.

11. The hydrogen supply system according to claim 1, characterized in that the mobile hydrogen production system is 15 provided with a material tank.

12. The hydrogen supply system according to claim 1, wherein the mobile hydrogen production system is provided with a hydrogen tank.

13. The hydrogen supply system according to claim 1, wherein 20 the hydrogen supply station is provided at two or more places, and the mobile hydrogen production system moves to or makes round of the hydrogen supply stations.

14. The hydrogen supply system according to claim 1, wherein 25 the mobile hydrogen production system is provided with a driving mechanism using a fuel cell, so that even while running, hydrogen

is produced by receiving a material from a mounted material tank, and the produced hydrogen is utilized for the running of the mobile hydrogen production system itself.

15. The hydrogen supply system according to claim 1, wherein
5 the mobile hydrogen production system is provided with a CO₂ recovery unit.

16. The hydrogen supply system according to claim 1, wherein
CO₂ emission is reduced by absorbing CO₂ from the reformer by
an absorbent in the mobile hydrogen production system, and the
10 used absorbent is regenerated and also CO₂ is recovered at an
absorbent regeneration base.

17. The hydrogen supply system according to claim 16,
wherein the regenerated absorbent is utilized to absorb CO₂ in
the mobile hydrogen production system.

15 18. A mobile hydrogen production system, comprising a
hydrogen production unit loaded on the system, the unit further
comprises:

a membrane reformer;

a hydrogen compressor;

20 a hydrogen tank;

a boiler;

a CO₂ solvent tank; and

a material tank.

19. The hydrogen supply system according to claim 1, wherein
25 the mobile hydrogen production system is the mobile hydrogen

production system as described in claim 18.